

What is Claimed is:

- 1 1. A connector for coupling microwave signals from a microwave module to a
2 signal line placed on a support structure comprising:
 - 3 a signal conductor extending from said microwave module into said support
 - 4 structure and coupled to said signal line to carry microwave signals from said microwave
 - 5 module to said signal line;
 - 6 an electrically conductive gasket placed about said signal conductor between said
 - 7 microwave module and said support structure to reduce signal leakage and form a ground
 - 8 path therebetween; and
 - 9 an insulating sleeve placed about said signal conductor within said support
 - 10 structure to control impedance of a microwave signal path within that structure.
- 1 2. The connector of claim 1, wherein said microwave module and said support
2 structure are arranged in a vertical fashion with said signal conductor extending in a
3 substantially vertical direction therebetween.
- 1 3. The connector of claim 1, wherein said signal conductor includes a pin.
- 1 4. The connector of claim 1, wherein said support structure includes a chassis
2 plate.
- 1 5. The connector of claim 1, wherein said gasket is constructed of a pliable
2 metal.
- 1 6. The connector of claim 1, wherein said signal conductor is placed within a
2 channel defined within said support structure and said dimensions of said signal conductor
3 and said insulating sleeve provide a clearance relative to said channel that maintains said
4 microwave signal path impedance substantially independent of the position of said
5 insulating sleeve and signal conductor within said channel.
- 1 7. The connector of claim 6, wherein said clearance is approximately 0.005
2 inches.

1 8. The connector of claim 1, wherein said signal line includes a microstrip
2 transmission line.

1 9. The connector of claim 1, wherein said signal conductor is coupled to said
2 signal line via a conductive element and said signal line includes at least one capacitive
3 element to compensate for inductance of said conductive element coupling.

1 10. The connector of claim 1, wherein said microwave module includes a
2 module signal line coupled to said signal conductor to provide microwave signals.

1 11. The connector of claim 10, wherein said module signal line is positioned
2 substantially perpendicular to said signal conductor.

1 12. The connector of claim 10, wherein said module signal line is positioned
2 substantially parallel to said signal conductor.

1 13. The connector of claim 10, wherein said module signal line includes a
2 microstrip transmission line.

1 14. The connector of claim 10, wherein said signal conductor is coupled to said
2 module signal line via a conductive element and said module signal line includes at least
3 one capacitive element to compensate for inductance of said conductive element coupling.

1 15. The connector of claim 1, wherein said microwave module includes a seal
2 placed about said signal conductor to maintain signals within said microwave module.

1 16. A method of coupling microwave signals from a microwave module to a
2 signal line placed on a support structure comprising:

3 (a) transporting microwave signals from said microwave module to said
4 support structure via a signal conductor extending from said microwave module into said
5 support structure and coupled to said signal line;

6 (b) forming a ground path and reducing signal leakage between said
7 microwave module and said support structure via an electrically conductive gasket placed
8 about said signal conductor; and

9 (c) controlling impedance of a microwave signal path within said support
10 structure via an insulating sleeve placed about said signal conductor within that structure.

1 17. The method of claim 16, wherein step (a) further includes:

2 (a.1) transporting microwave signals from said microwave module to said
3 support structure, wherein said microwave module and said support structure are arranged
4 in a vertical fashion with said signal conductor extending in a substantially vertical
5 direction therebetween.

1 18. The method of claim 16, wherein said signal conductor includes a pin.

1 19. The method of claim 16, wherein said support structure includes a chassis
2 plate.

1 20. The method of claim 16, wherein said gasket is constructed of a pliable
2 metal.

1 21. The method of claim 16, wherein said signal conductor is placed within a
2 channel defined within said support structure, and step (c) further includes:

3 (c.1) maintaining said microwave signal path impedance substantially
4 independent of the position of said insulating sleeve and signal conductor within said
5 channel via a clearance gap between said signal conductor with said insulating sleeve and
6 said channel.

1 22. The method of claim 21, wherein said clearance gap is approximately 0.005
2 inches.

1 23. The method of claim 16, wherein said signal line includes a microstrip
2 transmission line.

- 1 24. The method of claim 16, wherein step (a) further includes:
2 (a.1) coupling said signal conductor to said signal line via a conductive element,
3 wherein said signal line includes at least one capacitive element to compensate for
4 inductance of said conductive element coupling.
- 1 25. The method of claim 16, wherein step (a) further includes:
2 (a.1) transferring microwave signals to said signal conductor from a module
3 signal line within said microwave module and coupled to said signal conductor.
- 1 26. The method of claim 25, wherein step (a.1) further includes:
2 (a.1.1) transferring microwave signals to said signal conductor from said module
3 signal line placed substantially perpendicular to said signal conductor.
- 1 27. The method of claim 25, wherein step (a.1) further includes:
2 (a.1.1) transferring microwave signals to said signal conductor from said module
3 signal line placed substantially parallel to said signal conductor.
- 1 28. The method of claim 25, wherein said module signal line includes a
2 microstrip transmission line.
- 1 29. The method of claim 25, wherein step (a.1) further includes:
2 (a.1.1) coupling said signal conductor to said module signal line via a conductive
3 element, wherein said signal line includes at least one capacitive element to compensate
4 for inductance of said conductive element coupling.
- 1 30. The method of claim 16, wherein step (a) further includes:
2 (a.1) maintaining signals within said microwave module via a seal placed about
3 said signal conductor.